CLAIMS

What is claimed is:

1. An immunization formulation, comprising:
   a) an antigen; and
   b) an emulsan or emulsan analog.

2. The immunization formulation of Claim 1, wherein the emulsan or emulsan analog is secreted from *Acinetobacter calcoaceticus*.

3. The immunization formulation of Claim 2, wherein the emulsan or emulsan analog is secreted from *Acinetobacter calcoaceticus* RAG-1.

4. The immunization formulation of Claim 1, wherein the formulation includes an emulsan analog.

5. The immunization formulation of Claim 4, wherein the emulsan analog is secreted by a mutant of *Acinetobacter calcoaceticus*.

6. The immunization formulation of Claim 5, wherein the emulsan analog is secreted by a transposon mutant of *Acinetobacter calcoaceticus*.

7. The immunization formulation of Claim 4, wherein the emulsan analog has an average fatty acid chain length in a range of between about 10 carbons and about 20 carbons.

8. The immunization formulation of Claim 4, wherein the emulsan analog has a fatty acid density in a range of between about 25 nmol/mg emulsan and about 900 nmol/mg emulsan.

9. The immunization formulation of Claim 4, wherein the emulsan analog has an amount of saturated bonds in fatty acids of the analog in a range of between about 80 mole % and about 100 mole %.

10. The immunization formulation of Claim 4, wherein the emulsan analog has an amount of hydroxylated fatty acids in a range of up to 65 mole %.

11. The immunization formulation of Claim 4, wherein the emulsan analog is formed by feeding *Acinetobacter calcoaceticus* or a mutant thereof a compound selected from the group consisting of fatty acids, fatty acid salts, hydroxylated fatty acid salts and complex carbon sources that include fatty acids, said group having a carbon chain length in a range of between about 10 carbons and about 20 carbons.

12. The immunization formulation of Claim 1, wherein the antigen is selected from the group consisting of peptides, polypeptides, viruses, bacteria, fungi, and parasites.

13. The immunization formulation of Claim 12, wherein the antigen is dinitrophenol coupled to keyhole limpet hemocyanin.

14. A method of stimulating a cytokine in a host, comprising the step of administering to the host an emulsan or an emulsan analog.

15. The method of Claim 14, wherein the emulsan or emulsan analog is administered in an amount sufficient to cause immunomodulation of the host.

16. The method of Claim 15, further including the step of administering to said host an antigen.

17. The method of Claim 14, wherein the antigen is selected from the group consisting of peptides, polypeptides, viruses, bacteria, fungi, and parasites.

18. The method of Claim 17, wherein the antigen is dinitrophenol coupled to keyhole limpet hemocyanin.

19. The method of Claim 15, further including the step of secreting said emulsan or emulsan analog from *Acinetobacter calcoaceticus*.

20. The method of Claim 19, wherein the emulsan or emulsan analog is secreted from *Acinetobacter calcoaceticus* RAG-1.

21. The method of Claim 15, wherein an emulsan analog is administered to the host.

22. The method of Claim 21, further including the steps of secreting said emulsan analog from a mutant of *Acinetobacter calcoaceticus*.

23. The method of Claim 22, wherein the emulsan analog is secreted by a transposon mutant of *Acinetobacter calcoaceticus*.

24. The method of Claim 21, wherein the emulsan analog has a fatty acid chain length in a range of between about 10 carbons and about 20 carbons.

25. The method of Claim 21, wherein the emulsan analog has a fatty acid density in a range of between about 25 nmol/mg emulsan and about 900 nmol/mg emulsan.

26. The method of Claim 21, wherein the emulsan analog has an amount of saturated bonds in fatty acids of the analog in a range of between about 80 mole % and about 100 mole %.

27. The method of Claim 21, wherein the emulsan analog has an amount of hydroxylated fatty acids up to about 65 mole %.

28. The method of Claim 21, wherein the emulsan analog is formed by feeding *Acinetobacter calcoaceticus* or a mutant thereof a compound selected from the group consisting of fatty acids, fatty acid salts, hydroxylated fatty acid salts and complex carbon sources that include fatty acids, said group having a carbon chain length in a range of between about 10 carbons and about 20 carbons.

29. The method of Claim 14, wherein the host is a cell-line.

30. The method of Claim 14, wherein the host is a mammal.

31. The method of Claim 30, wherein the emulsan or emulsan analog is administered to the host intramuscularly.

32. A method of producing an emulsan analog, comprising the steps of:

a) mutating *Acinetobacter calcoaceticus* by transposon mutagenesis to form *Acinetobacter calcoaceticus* mutants; and

b) feeding at least one of said mutants a compound selected from the group consisting of fatty acids, fatty acid salts, hydroxylated fatty acid salts and complex carbon sources that include fatty acids, said group having a

carbon chain length in a range of between about 10 carbons and about 20 carbons.

33. The method of Claim 32, further including the step of screening the mutants for a mutant that secretes an emulsan analog having a fatty acid chain length in a range of between about 10 carbons and about 20 carbons.

34. The method of Claim 32, further including the step of screening the mutants for a mutant that secretes an emulsan analog having a fatty acid density in a range of between about 25 nmol/mg emulsan and about 900 nmol/mg emulsan.

35. The method of Claim 32, further including the step of screening the mutants for a mutant that secretes an emulsan analog having an amount of saturated bonds in fatty acids of the analog in a range of between 80 mole % and about 100 mole %.

36. The method of Claim 32, further including the step of screening the mutants for a mutant that secretes an emulsan analog having an amount of hydroxylated fatty acids up to about 65 mole %.

37. A formulation comprising an antigen and an emulsan for stimulating an immune response in an organism.

38. A formulation comprising an antigen and an emulsan analog for stimulating an immune response in an organism.